IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) Apparatus for treating chemical substances in a microwave field, comprising:

- a microwave chamber, in which microwave radiation acts on the substances,

- a container, which extends at least partly in the microwave chamber, for receiving the substances to be treated, and

- a device for spirally transporting the substances in the container that protrudes from the microwave chamber,

wherein the container protrudes from the microwave chamber.

2. (Currently Amended) Apparatus for treating chemical substances in a microwave field, comprising:

- a microwave chamber, in which microwave radiation acts on the substances,

- a flow-through container, which extends at least partly in the microwave chamber, for receiving the substances, and

- a mixing device for thorough mixing of the substances while they are being transported in the axial direction through the flow-through container that protrudes from the microwave chamber,

wherein the flow-through container protrudes from the microwave chamber.

3. (Currently Amended) Apparatus according to Claim 1, wherein the spiral device comprises a conveyor worm.

4. (Currently Amended) Apparatus according to Claim 3, wherein the conveyor worm comprises a rotary drive to effect forced conveyance of the substances in the ~~flow-through~~ container.

5. (Currently Amended) Apparatus according to Claim 3, wherein the ~~flow-through~~ container is a hollow cylinder and the conveyor worm is arranged with little play in the ~~flow-through~~ container.

6. (Currently Amended) Apparatus according to Claim 1, wherein a longitudinal dimension, extending in the microwave chamber, of the ~~flow-through~~ container and of the ~~spiral-guide~~ device for spirally transporting the substances is a multiple of an inner cross-sectional dimension of the ~~flow-through~~ container.

7. (Previously Presented) Apparatus according to Claim 1, wherein said apparatus is arranged vertically or such that it can be inclined and locked in an inclined position.

8. (Currently Amended) Apparatus according to Claim 1, wherein the ~~flow-through~~ container is connected at respective ends to an axial or radial flow-through line section, respectively.

9. (Currently Amended) Apparatus according to Claim 8, wherein the axial flow-through line section passes through a housing wall bounding the microwave ~~space~~ chamber.

10. (Canceled)

11. (Currently Amended) Apparatus according to Claim ~~10~~ 1, wherein an inlet or outlet for the ~~flow-through~~ container is arranged in the protruding end region of the ~~flow-through~~ container.

12. (Currently Amended) Apparatus according to Claim 1, wherein a treatment chamber is defined in the ~~flow-through~~ container and is connected to a pressure-limiting valve.

13. (Previously Presented) Apparatus according to Claim 12, wherein the pressure-limiting valve is arranged in a flow-through line section.

14. (Currently Amended) Apparatus according to Claim ~~10~~ 1, wherein a cooling or heating device is arranged in a region of the ~~flow-through~~ container which protrudes from the microwave chamber.

15. (Currently Amended) Apparatus according to Claim ~~10~~ 1, wherein a connecting piece is arranged in a region of the ~~flow-through~~ container which protrudes from the microwave chamber.

16. (Canceled)

17. (Canceled)

18. (Previously Presented) Apparatus according to Claim 6, wherein said longitudinal dimension is at least five times said inner cross-sectional dimension.

19. (Previously Presented) Apparatus according to Claim 6, wherein said longitudinal dimension is at least ten times said inner cross-sectional dimension.

20. (Previously Presented) Apparatus according to Claim 9, wherein the housing wall is horizontal.

21. (Currently Amended) Apparatus according to Claim ~~10~~ 1, wherein the spiral device protrudes from the microwave chamber.

22. (Previously Presented) Apparatus according to Claim 12, wherein the pressure-limiting valve is adjustable.

23. (Previously Presented) Apparatus according to Claim 13, wherein the pressure limiting valve is arranged in an outlet line section.

24. (Previously Presented) Apparatus according to Claim 13, wherein the pressure-limiting valve is displaceable so far that in an open position it frees the flow-through line.

25. (Previously Presented) Apparatus according to Claim 2 wherein the mixing device is a conveyor worm.

26. (Previously Presented) Apparatus according to Claim 25, wherein the conveyor worm comprises a rotary drive to effect forced conveyance of the substances in the flow-through container.

27. (Previously Presented) Apparatus according to Claim 25, wherein the flow-through container is a hollow cylinder and the conveyor worm is arranged with little play in the flow-through container.

28. (Previously Presented) Apparatus according to Claim 2, wherein a longitudinal dimension, extending in the microwave chamber, of the flow-through container and of the spiral guide is a multiple of an inner cross-sectional dimension of the flow-through container.

29. (Previously Presented) Apparatus according to Claim 28, wherein said longitudinal dimension is at least five times said inner cross-sectional dimension.

30. (Previously Presented) Apparatus according to Claim 28, wherein said longitudinal dimension is at least ten times said inner cross-sectional dimension.

31. (Previously Presented) Apparatus according to Claim 2, wherein said apparatus is arranged vertically or such that it can be inclined and locked in an inclined position.

32. (Previously Presented) Apparatus according to Claim 2, wherein the flow-through container is connected at respective ends to an axial or radial flow-through line section, respectively.

33. (Previously Presented) Apparatus according to Claim 32, wherein the axial flow-through line section passes through a housing wall bounding the microwave space.

34. (Previously Presented) Apparatus according to Claim 33, wherein the housing wall is horizontal.

35. (Canceled)

36. (Currently Amended) Apparatus according to Claim ~~35~~ 2, wherein the mixing device protrudes from the microwave chamber.

37. (Currently Amended) Apparatus according to Claim ~~35~~ 2, wherein an inlet or outlet for the flow-through container is arranged in the protruding end region of the flow-through container.

38. (Previously Presented) Apparatus according to Claim 2, wherein a treatment chamber is defined in the flow-through container and is connected to a pressure-limiting valve.

39. (Previously Presented) Apparatus according to Claim 38, wherein the pressure-limiting valve is adjustable.

40. (Previously Presented) Apparatus according to Claim 38, wherein the pressure-limiting valve is arranged in a flow-through line section.

41. (Previously Presented) Apparatus according to Claim 40, wherein the pressure limiting valve is arranged in an outlet line section.

42. (Previously Presented) Apparatus according to Claim 40, wherein the pressure-limiting valve is displaceable so far that in an open position it frees the flow-through line.

43. (Currently Amended) Apparatus according to Claim ~~35~~ 2, wherein a cooling or heating device is arranged in that region of the flow-through container which protrudes from the microwave chamber.

44. (Currently Amended) Apparatus according to Claim ~~35~~ 2, wherein a connecting piece is arranged in that region of the flow-through container which protrudes from the microwave chamber.

45. (New) Apparatus for treating chemical substances in a microwave field, comprising:

- a microwave chamber, in which microwave radiation acts on the substances,

- a container, which extends at least partly in the microwave chamber, for receiving the substances to be treated,

- a device for spirally transporting the substances in the container that protrudes from the chamber, and

- a lateral connecting pipe adapted to feed a further chemical substance into the container,

wherein the container protrudes from the microwave chamber.